



Earth as a System is Essential

# Weather and Climate Assessment

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You have been asked by the local news station to be involved in a series of special “Kid Correspondent” broadcasts on your local TV news station in which you explain weather and climate to the public.

## Planning:

Create a storyboard or script prior to filming the vid-cast. This will help minimize errors and help focus attention on the tasks asked.

## Task 1:

Create a 90 second vid-cast demonstrating and explaining how meteorologists and students can observe, collect, and measure the weather conditions. Discuss how weather is a system of interactions. Include the following:

- a. Define weather.
- b. Describe/demonstrate 3 different methods that scientists use to collect weather data.
- c. Describe how a fellow student could collect weather data in their own backyard.
- d. Explain how weather is a system of interactions and how the components of air, land, and hydrosphere respond to each other.



## Task 2:

Create a 60 second vid-cast distinguishing between weather and climate and how each is evident in the local area. Include the following:

- a. Define weather and climate.
- b. Describe the current weather conditions in your local area.
- c. Describe the climate in your local area.
- d. Give an analogy for weather and climate (like the clothes analogy).

## Rubric

Goal	Exceeds	Meets	Partially Meets	Does Not Meet
Observe and measure weather conditions (Task 1)	Gives more than three specific examples with explanation. Includes three methods of how other students could collect data with detail.	Gives three specific methods scientists use to collect weather data with explanation as to how these methods work. Includes 1-2 methods students could use to collect data.	Gives a vague example with little explanation as to how the methods work.	No example or explanation.
Distinguish between weather and climate (Task 2)	Define weather and climate. Provide an appropriate analogy comparing weather and climate. Describe local weather current local weather and the local climate with details explaining how they do not always "match."	Define weather and climate. Provide an appropriate analogy comparing weather and climate. Describe local weather current local weather and the local climate.	Attempts to define weather and climate. Does not provide an analogy comparing weather and climate. Attempts to describe local weather current local weather and the local climate.	Does not correctly define weather and/or climate.
Explain weather as a system of interactions (Task 1)	Shows several interacting components working together in a complex what to achieve a goal. May include one or more feedback interactions.	Shows several components working together to produce weather (water cycle, humidity, clouds, and precipitation) emphasizes the interactions and how the components of air, land, and hydrosphere respond to each other.	Shows only 2 interacting components and/or goal is not clear. Interactions are weak.	Does not correctly demonstrate the interactions between the components.

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## Teacher Notes

### Goals

This assessment is designed to evaluate student performance towards the following goals:

- Observing and measuring weather conditions.
- Distinguishing between weather and climate.
- Explaining weather as a system of interactions.

Students do not need to be evaluated towards meeting all of the above goals, and teachers should choose the goals most appropriate to the class curriculum. This assessment is meant to be given prior to the data and graphing unit.

### Preparation

Students will need access to a video camera and/or computer.



### Possible Modifications

This assessment was designed to evaluate student progress toward multiple goals. If necessary, eliminate sections of the rubric and related evidence to simplify the evaluation.

If students do not have access to a camera and/or computer for filming, they can create storyboards or scripts. Another option would be to perform the “newsbrief” in front of the class.

### Using the Rubric

This rubric does not include letter/number grades, and teachers should use a grading scale appropriate to their school/class scale. (Often, “Exceeds” is an “A”, “Meets” is a “B”, etc.)

Any goals that are not being assessed for a particular class should be removed from the rubric.

This Weather and Climate Assessment was developed by a group of middle school science teachers as a supplement to the EaSiE project’s Systems lesson with funding from NOAA Environmental Literacy Grant NA07SEC4690002. For more information and to download lessons from the *Earth as a System is Essential: Seasons and the Seas* (EaSiE) project, visit [www.mmsa.org/easie](http://www.mmsa.org/easie)